Listing of Claims

1. (currently amended) ~~Method~~ A method for noninvasive measurement of an internal pressure in elastic vessels in which a force is measured on the outer surface of the vessel and the internal pressure is ascertained with the aid of a difference from the measured force and a relaxation profile estimated in advance, characterized in that the relaxation profile is repeatedly checked after the start of the measurement.

2. (currently amended) ~~Method~~ The method according to Claim 1, characterized in that the relaxation profile is ascertained with the aid of an averaging method.

3. (currently amended) ~~Method~~ The method according to Claim 2, characterized in that an averaging is done in at least two different ways which differ in their smoothing width.

4. (currently amended) ~~Method~~ The method according to Claim 3, characterized in that a difference of the averages is continuously formed with differing smoothing widths.

5. (currently amended) ~~Method~~ The method according to ~~one of Claims 2-4~~ Claim 2, characterized in that a periodicity of the measured force is ascertained and a window width of the averaging is matched to the window width at least from time to time.

6. (currently amended) ~~Method~~ The method according to ~~one of Claim 1-5~~ Claim 1, characterized in that a first limit is continually formed, resulting from the fact that the relaxation profile decreases monotonically, and a second limit, resulting from the fact that ~~the~~ a slope of the relaxation profile decreases, and a change of the internal pressure is recognized when the relaxation profile exceeds one of the two limits.

7. (currently amended) ~~Method~~ The method according to ~~one of Claims 1-6~~ Claim 1, characterized in that support points are repeatedly determined in order to predict the relaxation profile.

8. (currently amended) ~~Method~~ The method according to Claim 7, characterized in that the support points are determined at predetermined points in time in an initialization phase and, in a measurement phase, after a predetermined change of the predicted relaxation profile.

9. (currently amended) ~~Method~~ The method according to Claim 7 ~~or 8~~, characterized in that the support points are not ascertained as long as a change of the internal pressure is recognized.

10. (currently amended) ~~Method~~ The method according to ~~one of Claims 7 9~~ Claim 7, characterized in that the relaxation profile is predicted ~~on the basis of~~ using the support points ~~with the aid of~~ and a nonlinear optimization method.

11. (currently amended) ~~Method~~ The method according to Claim ~~10~~ 8, characterized in that the prediction is support-point-controlled in the initialization phase and time-controlled in the measurement phase.

12. (currently amended) ~~Method~~ The method according to Claim ~~10 or 11~~ 7, characterized in that a predetermined number of the most recently ascertained support points are used for optimization.

13. (currently amended) ~~Method~~ The method according to ~~one of Claims 7 12~~ Claim 7, characterized in that the relaxation profile is predicted ~~on the a basis of~~ using the support points with the aid of a mathematical model of the ~~tube~~ vessel.